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# RELATIONSHIP BETWEEN INTERCULTURAL AWARENESS AND PERSONALITY VARIABLES IN INTERRACIAL ENCOUNTERS

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→ (c) the Least Preferred Coworker (LPC) scale, and (d) the group atmosphere scale. Within-measure analyses of the last three scales revealed interesting results of inter-race and/or inter-rank differences in attribution of various personality traits inherent in the measures. Between-measure analyses in using the IA Scale as a dependent variable yielded two important principles in inter-racial relations: (a) intercultural awareness is directly related to an individual's personality and cognitive style characteristics, and (b) elevation of an individual's cultural awareness level will definitely improve one's attitudes, values, and behavioral dispositions toward the members of another culture, and thus decrease the intercultural gaps and/or conflicts in interracial encounters. Finally, the paper examines an important theoretical framework along with five determinants that should be considered for an effective intercultural training program in the future.

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# **RELATIONSHIP BETWEEN INTERCULTURAL AWARENESS AND PERSONALITY VARIABLES IN INTERRACIAL ENCOUNTERS**

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## FOREWORD

Since 1972, the Army Research Institute for the Behavioral and Social Sciences (ARI) has been active in research on the policy, operational problems, and programs of the Army's Race Relations/Equal Opportunity Program. In 1973, ARI initiated research designed to explore alternative or supplementary race relations training techniques. This included exploratory research designed to determine the feasibility of using the Cultural Assimilator as a race relations training technique. The early research is reported in ARI Technical Paper 310, Use of a Black "Culture Assimilator" to Increase Racial Understanding, and ARI Technical Paper 314, Cultural Assimilator for Training Army Personnel in Racial Understanding. Because of limited time constraints established for the data collection under the second research project it was necessary to omit the administration of the personality measures after data were collected at the first installation.

This Technical Paper is based upon the small sample of 78 Army personnel obtained at the first installation and seeks to establish the relationship between selected personality variables and intercultural awareness as measured by a Cultural Assimilator. This analysis was accomplished as part of contract DAHC 19-77-C-0056 with Indiana University/Purdue University at Indianapolis, Ind., under Army Project 2Q161102B74F, Personnel Performance and Training.

  
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RELATIONSHIP BETWEEN INTERCULTURAL AWARENESS AND PERSONALITY  
VARIABLES IN INTERRACIAL ENCOUNTERS

BRIEF

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Requirement:

To investigate the relationships between an individual's personality characteristics and his or her understanding of the dynamics involved in potential interracial conflicts and controversies in the Army.

Procedure:

Data collected in 1974 from 78 U.S. Army personnel, with about equal proportions of both blacks and whites, and of both officers and enlisted men, included the ratings on four measures: (a) a set of pre-developed intercultural awareness (IA) questions, (b) the Machiavellianism scale, (c) the Least-Preferred Coworker (LPC) scale, and (d) the group atmosphere scale.

Findings:

Analyses using the IA Scale as a dependent variable yielded two important principles in interracial relations: (a) intercultural awareness is directly related to an individual's personality and cognitive style characteristics, and (b) elevation of an individual's cultural awareness level will definitely improve one's attitudes, values, and behavioral dispositions toward the members of another culture, and thus decrease the intercultural gaps and/or conflicts in interracial encounters. Analyses of the last three scales revealed interesting results of interracial and/or interracial differences in attribution of various personality traits inherent in the measures.

Utilization:

The paper presents an important theoretical framework along with five determinants that should be considered for an effective intercultural training program in the future.

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## Introduction

Within the world population, the diversity and complexity of inter-cultural means of dealing with the social political and natural environments have increased significantly in recent years. The difficulties experienced by most societies in both inter- and intra-national interactions are mainly due to inter-group heterogeneities with respect to two aspects of the cultures -- objective and subjective. The objective cultures represent observable social indicators such as ethnicity, sex, age, education, economic background, living conditions, crime rate, and drug abuse statistics, etc. The subjective cultures on the other hand represent such internal indicators as feelings, believing, conceiving, judging, hoping, fearing, and meaning (Tzeng and Osgood, 1976)". Interaction between these two types of systems determine the consequence of social movements toward inter-group (or inter-racial) harmony and integration on the one hand, and the prospect of an individual's subjective well being, or life satisfaction on the other hand. Therefore, research in such relationships seems to be one of the most urgent and important tasks in contemporary social and political sciences.

Within the United States, there exist numerous heterogeneous sub-groups of individuals who differ from each other not only in some objective aspects of culture (race, sex, age, religion, etc.) but in some subjective aspects of culture (e.g., value systems, attitudes, stereotyping, etc.) as well. The development of an integrated theory, method, and procedure for the exploration of the issues on inter-subcultural understanding within such a culturally pluralistic society would seem necessary as a prerequisite to the planning and implementation of various social and institutional programs. Psychologically, this is due to the fact that in dealing with people outside of the realm of one's own indigenous cultures, each individual brings with him certain expectations of how other people are supposed to act. Any relationship that might develop for a transcultural cross-culturally oriented person can be successful or suffer the debilitating effects of misunderstanding, depending on the etiology that one attributes to any accultural behavior encountered. Therefore, many neutral incidents may cause unnecessary conflicts due to misunderstanding, wrong assumptions and differences based on subjective cultures that are unrelated to the actual situation. For example, in inter-racial encounters, difficulties may easily arise from an ignorance of what is rewarding to the other person (Triandis, 1976)<sup>2</sup>. Because effective inter-racial and inter-cultural relations require what Triandis called "isomorphic attributions" of the contents of interactions and the perceived meanings of the counterpart, correct inferences about what behavior is likely to be reinforced, to what extent, and under what conditions, etc. would definitely enhance the ability of transcultural

<sup>1</sup>Tzeng, O.C.S. & Osgood, C.E. Validity tests for componential analysis of conceptual domains: A cross-cultural study in methodology. Behavioral Science, 1976, 21, 69-85.

<sup>2</sup>Triandis, H.C. (Ed.) Variations in black and white perceptions of the social environment. Urbana: University of Illinois Press, 1976.

persons to reinforce the behavior of others.

Furthermore, in a given highly structured organization in which individuals with different objective and subjective backgrounds are required to pursue and achieve some common goal set for the institution, within-group heterogeneities may provide a potential threat to not only the understanding and harmony among the personnel but also to the efficiency and even survival of the institution itself. Therefore, it is essential for the organizational administration to develop some form of effective orientation and/or training program that would enable all new members to appreciate the nature and contributions of both the subjective and objective cultures of their colleagues within the organization.

In the particular institution of the United States Army, individuals with more diversified backgrounds in ethnicity, religion, economics, social status, education, vocation and life experience are required to perform highly unitary missions that demand the complete agreement on the tasks and the highest efficiency of their actions. Under such circumstances, one of the major concerns in Army training routines should include the training of new personnel to accomplish the following objectives:

(1) help trainees clarify their feelings about other ethnic groups, and the concept of cultural pluralism and related social issues. (2) provide information about ethnicity, about the nature and conditions of various subjective cultures of other ethnic groups, and about the processes through which groups adapt and change. (3) develop skills for more effective inter-personal communication with persons of diverse ethnic backgrounds and of different ranks and job assignments. (4) develop attitudes and techniques for dealing with controversial issues and situations that may arise in some inter-racial encounters.

#### Cultural Assimilator

One method for training members of a given ethnic culture to make accurate isomorphic attributions with respect to the behavior of members of another (target) culture is known as the cultural assimilator (Landis, et al, 1976)<sup>3</sup>. In essence, this training technique presents the trainee with a series of "critical incidents" (episodes) in which conflicts arise through misunderstanding between a member of an ethnic culture and a member of the target culture. After reading each episode, the trainee is asked to select an answer from several prespecified alternatives in explanations of the behaviors of the target culture member. The trainee is then provided with feedback concerning the accuracy of the answer and the reasons behind it. The goals of this inter-cultural training, as recommended by Triandis (1976), are as follows: (1) to familiarize the students of one culture with the situations and/or dimensions that make a difference in interpersonal relationships with individuals of other ethnic groups, (2) to employ the principle of

<sup>3</sup>Landis, D, Day, H.R., McGrew, P.L., Thomas, J.A. & Miller, A.B. Can a black "culture assimilator" increase racial understanding?. Journal of Social Issues, 1976, 32, 2, 169-183.

transfer of learning to other inter-racial conflict situations, and (3) to present the learner with the norm values, role structures, general intentions, self concepts, and value systems of members of other cultures.

This form of training, initially suggested by Osgood (Note 3)<sup>4</sup>, was first developed by Fiedler and Triandis in a research project in which these psychologists worked conjointly. An account of their studies are reported by Fiedler, Mitchell, and Triandis (1971)<sup>5</sup>, and Mitchell, Dossett, Fiedler and Triandis (1971)<sup>6</sup>. In recent years, this technique was also explored in several Army personnel training programs. For example, a study was conducted to test the effect of such a cultural assimilator training program on the awareness of black cultures among white junior grade officers at four U.S. Army posts (Landis, Day, McGrew, Thomas, and Miller, 1976). The result indicated a steady increase in correct responses as the trainees progressed through the training. Similar results were also substantiated among black junior grade officers in learning the cultures of white army colleagues (Day, Landis, and McGrew, Note 1)<sup>7</sup>.

Weldom, Carlston, Rissman, Slobodin and Triandis (1975) also conducted a laboratory study of white male college students assessing the effect of the culture assimilator on their relations with black students. Measuring the ability of these white students in making isomorphic attributions, the subjects with culture assimilator training scored significantly higher than did the untrained. For female students, Randolph, Landis and Tzeng (1977) obtained a congruent result in a culture assimilator experiment on as few as 40 items. That is, white female college students who received training showed significant improvement over untrained subjects in the ability to make isomorphic attributions concerning the behavior of the members of the target (black American) culture. In addition, they found that the anxiety level of trained subjects, that were aroused during the initial contacts with the target members decreased systematically over time, while the level of anxiety of untrained subjects remained constant.

The above empirical evidence suggests that the cultural assimilator is an effective training technique that may be used to enhance an individual's knowledge and appreciation of the cultures of other ethnic groups and hence to facilitate better communications and enjoyment of inter-racial interactions.

<sup>4</sup>Osgood, C.E., Speculation on the structure of interpersonal intentions. (Tech. Rep. 39) Urbana: University of Illinois, 1966.

<sup>5</sup>Fiedler, F.E., Mitchell, T.R., & Triandis, H.C. The cultural assimilator: An approach to cross-cultural training. Journal of Applied Psychology, 1971, 55, 95-102.

<sup>6</sup>Mitchell, T.R., Dossett, D.L., Fiedler, F.E., & Triandis, H.C., Validation evidence for the culture assimilator. (Tech. Rep. 71-82). Urbana: University of Illinois, 1971.

<sup>7</sup>Day, H.R., Landis, D. & McGrew, P.L., Exploration in cultural understanding (CSD TR 75-8). Philadelphia: Center for Social Development, 1975.

### Personality Variables and Intercultural Awareness

In order to develop and implement a cultural assimilator or other training programs within any institution, it is important to identify in advance the characteristics of the antecedent variables of the prospective trainees' objective as well as subjective cultures that are directly related to inter-racial encountering situations. This implies that due to potential individual differences among a "homogeneous" group of subjects across different institutions, the context and procedures of the training program should be designed in such a way that they will maximally cope with the environmental realities of the institution under consideration. Therefore, a program that proved to be effective in an industrial-civilian setting may not necessarily be so in an Army unit. Under such circumstances, knowledge of all major antecedent variables involved in inter-racial communications and interactions should be a prerequisite for successful development and implementation of a cultural assimilator program.

Within the Army, the following variables would seem to have most direct relevancy to the planning of a cultural assimilator training program: (a) an individual's prior knowledge and/or sensitivity of the subjective cultures of other ethnic groups, (b) various salient situations and/or issues that are potentially controversial among individuals from different ethnic backgrounds, (c) an individual's beliefs and confidence about the possibility of being (or not being) manipulated and/or deceived in the army living and working situations, and (d) an individual's preferences for the personality characteristics of co-workers and the preference for group atmosphere in the working and living environment. Due to the inevitable conditions of individual differences among Army personnel in various objective indicators, e.g., ranks, ages, assignments, prior experiences with other cultures, childhood residencies, formal educational history, etc., there should be some significant individual differences in their attributions to these four antecedent variables. Therefore, for future development of a comprehensive cultural assimilator (or other) training program, it is necessary to characterize the nature of these subjective variables and their relationships with various objective indicators within a prospective subject training population in the Army.

### Purposes of the present study:

On the basis of the above considerations, the present study was designed as part of the preparation for a cultural assimilator and training research program to investigate the relations of various personality characteristics with different levels of intercultural awareness. This involves the following five specific objectives: (a) measurement of intercultural awareness, IA, and formulation of a composite score for each respondent, (b) identification of underlying dimensions inherent in the Machiavellianism scales when they were used for measuring individuals' cohortability and persuadability within the Army institution, (c) measurements of perceived characteristics of the least preferred co-worker and the perceived group atmosphere of each individual, (d) identification of underlying constructs involved in the above measures and their effects on individual differences among

personnel with different objective cultural backgrounds in race and rank, and (e) identification of relationships between the intercultural awareness measures and the three personality variables. For the first four purposes, pertinent voting scales were adopted from the literature as the measurement instruments.

The above five purposes are centered at the major theme of identifying the characteristics and dynamics of intercultural relationships and communications in military environment. While the first four purposes are designed for establishing the constructs and/or effects of each measurement domain, the last purpose focuses on between-domain comparisons and integrations.

### Method and Procedure

#### Scales

Four types of scales were employed in the present study: the intercultural awareness (IA) scale, the Machiavellianism scale, the measures of the least preferred co-workers (LPC), and the group atmosphere (GAS) scale. A brief description of these scales is given as follows:

The Intercultural Awareness (IA) Scale. This measure consists of a set of 107 assimilator items in test format, except for the feedback elements being deleted. Each item represents a critical incident or scenario of an incident involving potential inter-racial and inter-rank conflict or misunderstanding in the U.S. Army. The entire incidents were constructed on the basis of extensive taped interviews with representative personnel with different backgrounds in rank, ethnicity and job assignment. Specifically, these items dealt predominantly with the cultural backgrounds and perspectives of black enlisted men, but many items also focused on black officers and white enlisted men as the basis for illustrating various critical problems in inter-racial relations. Detailed descriptions about the development of these items are referred to Landis et al, (1976).

At the end of each item, a question was added regarding the behavior or the probable attitude of one of the "antagonists". Four possible explanations (alternatives) were given: among them, one was "correct" in using relevant information and knowledge about the cultures of the target group in the incident, and the other three alternatives were "incorrect" in using information which was either faulty, incomplete, or stereotyping in nature. Therefore, the "incorrect" alternatives were representative of prevailing misconceptions, stereotyping and/or other prejudice. In addition, each item was also rated on a seven-step familiarity scale ranging from very unfamiliar to very familiar.

Machiavellianism Scale. Seventy nine items of the Machiavellianism scale (Christie and Geis, 1970)<sup>8</sup> were used to measure each individual's

<sup>8</sup>Christie, R. & Geis, F.L. Studies in Machiavellianism, New York: Academic Press, 1970.

cohortability, persuadability and degrees of concerns with conventional morality and ideological commitments. For example, the subjects were asked to indicate their degrees of agreement on the item 'Honesty is the best policy' against a five step agree/disagree continuum. For identification of underlying constructs (dimensions) that determined the inter-item relationships in Mach measures for the Army personnel, factor analysis was performed on subject responses. Factor scores on the resultant dimensions were then used for identifying individual differences.

Least Preferred Co-worker (LPC) Scale. The LPC Scale, developed by Fiedler (1967)<sup>9</sup>, consisted of 16-25 semantic differential eight-step bipolar adjectives which, according to Fiedler and others (cf., Rice, 1978)<sup>10</sup>, were assumed to measure the style and effectiveness of leaderships in an organization. In taking the LPC scale, each respondent described his or her least preferred co-worker, defined as "the person with whom you had the most difficulty in getting a job done", on each SD item (e.g., pleasant-unpleasant). The favorable pole of each item (e.g., pleasant, efficient, friendly, etc.) was scored as 8 and the unfavorable pole was scored as 1. The total LPC score was calculated by summing the scores for all items. In the LPC literature, such a total score has been interpreted in at least four different ways with respect to the following psychological propositions: social distance, motivations and needs, cognitive complexity, and motivational hierarchy. For example, a leader who scored high on the scale may be considered as having a favorable, affective relationship with other members of the group. In the present study, 16 items in the LPC scale were used to measure an individual's preferences for the personality characteristics of their fellow Army personnel having different subjective as well as objective culture backgrounds. In addition, instead of computing a single LPC score for each respondent, the major focus in this study was to identify inter-race and inter-rank differences as well as similarities in individual items and their relationships with other measures.

Group Atmosphere Scale (GAS). This scale consisted of 10 semantic differential bipolar items: pleasant/unpleasant, friendly/unfriendly, good/bad, valuable/worthless, close/distant, warm/cold, harmonious/quarrelsome, self-assured/hesitant, efficient/inefficient, and cheerful/gloomy. These items, scored from 1 to 8 as for the LPC scale, were used to differentiate inter-race and inter-rank differences in the perceived group atmosphere within the same Army institution.

### Subjects

The subjects whose results were reported in this study were 78 male U.S. Army personnel stationed at Fort Eustis, Virginia, when the data were gathered in 1974. Table 1 presents the frequency distribution of these subjects with regard to race, rank (enlisted men, vs. officers),

<sup>9</sup>Fiedler, F.E. A theory of leadership effectiveness, New York: McGraw-Hill, 1967.

<sup>10</sup>Rice, R.W. Construct validity of the least preferred co-worker score. Psychological Bulletin, 1978, 85(6), 1199-1237.

Table 1

Subject Distribution: Race by six other variables

VARIABLE		RACE		Total
		White	Black	
1. <u>Rank</u>	Enlisted	17	23	40
	Officers	22	16	38
2. <u>Cultural Exposure</u>	none	14	13	27
	yes	25	26	51
3. <u>Childhood Residence</u>	Rural	18	25	43
	Urban	21	14	35
4. <u>Geographical Locale of Childhood</u>	NonSouth-east	26	16	42
	Southeast	13	23	36
5. <u>Socio-econ. Background</u>	Middle & Upper	29	25	54
	Lower	10	14	24
6. <u>Education</u>	High School	15	17	32
	Beyond High School	24	22	46
Total		39	39	78



Table 2  
Salient Factor Loadings of the Machiavellianism Scales

Statement		Loadings
Dimension 1 (28.8%) MORALITY <sup>a</sup>		
61.	Honesty is the best policy.	.77
28.	To hate people for the things they stand for.	-.57
76.	Terminally ill people should have the choice of being put to death.	-.52
65.	To be humble and honest is more important than being important and dishonest.	.51
60.	Take action only when morally certain.	.51
73.	It is impossible to be good in all respects.	.47
16.	Man on his own is a helpless and miserable creature.	.40
9.	The lottery system is an equitable means of obtaining a national army.	.39
66.	Give the real reason for asking a favor of someone rather than a more weighty, false reason.	.38
39.	There are two kinds of people, those for the truth and those against it.	.36
Dimension 2 (14.9%) PATRIOTISM & ETHNOCENTRISM		
50.	Patriotism and loyalty are the most important requirements of a good citizen.	.64
38.	A group which tolerates too many differences of opinion among its members can't exist long.	.63
14.	It is natural that a person has a better acquaintance with ideas that he believes in rather than those that he opposes.	.63
57.	The Russians and Chinese are racially war minded and must be wiped out or controlled.	.50
30.	Life becomes meaningful only if a person devotes himself to a cause or an ideal.	.47

Table 2 (Continued)

Statements		Loadings
Dimension 2 (cont.)		
11.	Peace maintained without honor is no longer peace.	.45
32.	A person enthusiastic about too many causes is likely to be "wishy-washy".	.43
Dimension 3 (12.4%) SOCIAL PRAGMATISM		
12.	U.S. and Russia have almost nothing in common.	.56
33.	Compromise with political opponents usually leads to betrayal of our own side.	.54
53.	The main threat to American institutions is the infiltration of foreign ideas, doctrines, etc.	.53
58.	Never tell the real reason why you do something unless it is useful to do so.	.52
74.	Barnum was wrong when he said that there's a sucker born every day.	.46
68.	Anyone who completely trusts someone else is asking for trouble.	.36
Dimension 4 (10.5%) SUPREMACY OF NATIONAL INTEREST		
54.	Present treatment of draft evaders is too lenient. They deserve more than just prison or work camp.	.66
6.	Anyone refusing to serve in the army doesn't deserve to be called an American.	.61
41.	A person who thinks primarily of his own happiness is beyond contempt.	.49
40.	My blood boils when a person refuses to admit that he is wrong.	.48
48.	Many people with whom I've discussed social and moral problems don't know what's going on.	.42
56.	There will always be wars due to races that grab more than their share.	.37
11.	Peace maintained without honor is no longer peace.	.36

Table 2 (Continued)

	Statement	Loadings
<hr/>		
Dimension 4 (cont.)		
35.	Nowadays, a person must be pretty selfish if he considers primarily his own happiness.	.35
<hr/>		
Dimension 5 (9.5%) MILITARY ADVENTURISM		
3.	It was necessary for us to send troops to Cambodia.	.62
23.	Better a dead hero than a live coward.	.55
44.	Reserve judgement on what's going on until you have a chance to hear the opinion of those you respect.	.50
2.	Everyone has an obligation to serve his country in the military.	.49
5.	Our nation's peace and security can only be maintained through defensive military action.	.45
<hr/>		
Dimension 6 (8.5%) PHILOSOPHICAL CONSCIENTIOUSNESS		
29.	A man who hasn't believed in some great cause hasn't lived.	.63
27.	Throughout history there have been only a few great thinkers.	.57
25.	The main thing in life is to do something important.	.52
49.	Most people just don't know what's good for them.	.49
69.	The big difference between criminals and most people is that criminals are stupid enough to get caught.	.48
18.	Most people just don't give a damn for others.	.47
46.	The present is all too full of unhappiness. Only the future counts.	.44
28.	To hate people for the things they stand for.	.43
19.	I'd like to find someone to help me solve my personal problems.	.40
43.	We can know what's going on only through reliance on truthful leaders and experts.	.39

Table 2 (Continued)

11

	Statements	Loadings
Dimension 6 (cont.)		
40.	My blood boils when a person refuses to admit he's wrong.	.39
39.	There are two kinds of people, those for the truth and those against it.	.36
Dimension 7 (8%) EXTRA-CULTURAL AWARENESS		
17.	The world is a pretty lonesome place.	.53
72.	Most people are basically good and kind.	-.46
48.	Many people with whom I've discussed social and moral problems don't know what's going on.	.46
55.	It would be a mistake to lower European immigration quotas and allow them to flood the country.	-.42
70.	Most men are brave.	-.39
34.	Concerning differences of religious opinion, be careful not to compromise with contrary beliefs	.34
31.	Of all the extant philosophies, probably only one is correct.	.31
Dimension 8 (7.3%) ATTITUDINAL RESTRAINT		
78.	Once I get wound up in a heated discussion I just can't stop.	.50
26.	Given a chance, I would do something of great benefit to the world.	-.45
27.	Throughout history, there have been just a few great great thinkers.	.38
71.	It is wise to flatter important people.	-.34
10.	There has never been a just war.	.34
67.	Most people who get ahead in the world lead clean moral lives.	.33
20.	It's natural for a person to be rather fearful of the future.	.32

<sup>a</sup>The percentage of the common variance accounted for by each dimension.

cross-cultural exposure (no prior traveling and service experience in a foreign country vs. yes), childhood residence (rural vs. urban), geographic location of childhood (southeast states vs. non-south east states), socio-economic background (lower vs. middle and upper), and education (high school or lower vs. beyond high school). For each bi-variable interaction with race, the subject frequencies were proportionally distributed. Data were gathered from each subject on all four measurement scales for inter-race as well as inter-rank comparisons.

## Results and Discussions

### Intercultural Awareness (IA) Scales

In order to compute a global index of intercultural awareness level for each subject involved in the present project, the "correct" response alternatives of each assimilating item was rescaled with values of 10, 8, 2, 1, in accordance with its rank order of being chosen as the answer. Such arbitrary assignment of numbers was to differentiate maximally the awareness (correct) responses from "naive" (incorrect) responses. A composite score was then obtained for each individual across all 107 items. Correlation coefficients were further computed for such composite scores with five other variables -- rank, cultural exposure, socio-economic background, education, and individuals' average familiarity score computed across the same assimilating items. It is interesting to note that among 15 bi-variate correlation coefficients, only three intercorrelations between rank, education and IA variables were significant beyond the .05 level. This seems to suggest that intersubcultural understanding commensurates the individual's knowledge and actual career experiences with the numbers of other cultures. Without active participation in common life experiences, the barriers of intersubcultural stereotypes will never be reduced. Specifically, within the highly organized Army institution with multi-cultural constituents, some sort of effective education and training programs for intercultural awareness and understanding would be necessary to accelerate the reduction rate of tensions among enlisted individuals with lower educational backgrounds.

### The Machiavellianism Scale

A principal component analysis was applied to all subjects' responses on the 79 Mach scales for the purpose of identifying their underlying constructs when applied to the present Army personnel. Eight resulting dimensions, after being rotated via varimax criterion, yielded meaningful psychological components. As given in Table 2, Dimension 1, with high loadings from items regarding honesty, decency and sincerity with respect to various roles in life, is identified as a Morality factor. The second factor is apparently a Patriotism or Ethnocentrism dimension. It emphasizes the characteristics of an individual's loyalty, unity, and devotion to citizenship and to their own beliefs. Dimension 3 has high loadings from items regarding the social pragmatic nature of behavior and beliefs and is called the Social Pragmatism dimension. Dimension 4 is dominated by two items regarding the issues of military service. The other salient items emphasize the importance of esprit de corps.

Therefore, this dimension is called a Supremacy of National Interest dimension. Dimension 5, referred to military adventure and national security, is called the Military Adventurism dimension. Dimension 6, defined by items regarding the importance of philosophical consideration and understanding of others in daily activities and life patterns, can be tapped as a Philosophical Conscientiousness dimension. Dimension 7 has salient loadings from items associated with an individual's anxieties and apprehensions involved in social interactions with others. The negative attitude toward European immigrants seems to suggest that this dimension deals more with extracultural than with indigenous cultural relationships. Therefore, it will be characterized as an Extra-cultural Awareness dimension. Dimension 8 is dominated by the items reflecting the restrained status of internal attitudes and/or opinions about individuals in military careers. Other items are all related to an individual's judgments and values about the external environment. Therefore, it will be identified as an Attitudinal Restraint dimension.

The relationship between these Mach dimensions and the IA level were indexed by the correlation coefficients between an individual's eight composite factor scores and the IA measure. As shown in Table 3, the IA measure was negatively correlated, in order, with Social Pragmatism (Dimension 3), Supremacy of National Interest (4), and Patriotism (2). The multiple prediction of an individual's IA scores in terms of their factor composites on the eight Mach dimensions yielded a multiple correlation R of .45 which was significant beyond the .05 level. The two most important predictors are Social Pragmatism and National Interest. The converse relations between the IA and these two dimensions suggested that those individuals who scored high on the IA scale would tend to be more tolerant toward the opinion differences of others at both individual and national levels.

Composite factor scores of all individuals were computed by averaging their scores on the first five dominating items on each dimension. The mean values of these composites are given in Table 4 (A) for four groups of subjects categorized by race and rank. In order to identify inter-racial and inter-rank differences as well as similarities in the resultant eight factors, a multivariate analysis of variance was performed on the composite factor scores of all individuals. The results are summarized in Table 4 (B). Among three sources of variation, only the multivariate F value for the Rank variable is significant ( $P < .001$ ). This can be attributed to inter-rank differences from three univariate analyses of the Mach scales. That is, the officers of both races have higher values than the enlisted men on the dimensions of Patriotism, Social Pragmatism and Supremacy of National Interest. Such results seem to be quite consistent with the general impression that the officers, regardless of their ethnicity, have deeper beliefs than the enlisted men in the importance of an individual's loyalty to national defense and security.

On inter-race comparisons, no overall significant differences were observed across all eight Mach dimensions. However, dimension 5, Military Adventurism, did show a significant difference between two races. While the black personnel of both ranks tend to support such attitudinal statements as "sending troops to Cambodia", "better be a dead hero than be a live coward", and "everyone ought to serve his country in the military", etc., the white officers are less supportive. In particular, white enlisted men tend to oppose these actions and

Table 3  
Correlation Coefficients among IA and Fight Mach Dimensions

Variables	IA	1	2	3	4	5	6	7	8
	(Famil)								
IA-Measures of Inter-Cultural awareness	.065	.063	-.199	-.386**	-.220*	-.031	-.071	-.065	0.024
Familiarity of IA Measures		-.104	-.037	.161	.005	-.152	.189	.227*	-.044
1. Morality			-.165	-.036	.092	-.111	-.172	-.040	-.231*
2. Patriotism & Ethnocentrism				.359**	.306*	.203	.282*	.005	.057
3. Social Pragmatism					.152	.072	.315**	.128	.124
4. Supremacy of National Interest						.239*	.265*	.080	.190
5. Military Adventurism							.136	-.017	.085
6. Philosophical Conscientiousness								.111	.594** <sup>a</sup>
7. Extra-Cultural Apprehension									-.014
8. Attitudinal Restraint									1.000

a As shown in Table 2, item 27 was self-referent on both Dimensions 6 and 8. Therefore, inter-correlations

\*  $p < .05$  between these two factors are somewhat inflated.

\*\*  $p < .01$

Table 4  
Summary of MANOVA on Composite Factor Scores of the Mach Scales

(A) Composite Factor Scores of Groups

Subject Groups	Dimensions							
	1	2	3	4	5	6	7	8
	Morality	Patriot	Socio Prag	Nat Inter	Milit A	Phil con	Ex cult	Att Res
Black	3.94	2.91	2.38	2.50	4.47	3.67	2.60	2.18
White	3.91	3.54	2.50	2.54	3.52	4.36	2.71	2.68
TOTAL	3.93	3.18	2.43	2.51	4.07	3.96	2.65	2.39
Black	3.65	3.91	3.66	3.90	4.53	4.50	2.62	3.37
White	4.50	4.13	4.01	3.78	4.22	4.26	3.38	2.23
Officers	4.14	4.03	3.84	3.84	4.35	4.36	3.06	2.71
TOTAL	4.01	3.59	3.12	3.16	4.22	4.16	2.56	2.58

(B) Summary of F values from MANOVA

Sources of variations	Univariate F								Multivariate F
	1	2	3	4	5	6	7	8	
Rank	.29	6.28**	21.96**	13.64**	1.85	1.49	1.47	1.54	4.67***
Race	1.70	1.59	.60	.01	3.69*	.47	1.99	1.02	1.59
Rank X Race	2.06	.37	.14	.05	.97	1.84	1.93	7.41**	1.61

\*  $P < .05$

\*\*  $P < .01$



The last factor, V, has high loadings from interesting, open, and harmoneous on the positive side, and boring, guarded and quarrelsome on the negative side. It is interesting to note that the familiarity measure on the IA scale has the highest loading on this factor. Since the familiarity measure only reflects the degree to which each individual is aware of the existence of the intercultural, discrepant issues presented in the assimilators, this dimension may suggest the level of willingness in knowing or accepting the reality of co-working situations. Therefore, it may be called an Approach/Withdrawal (or Curiosity) dimension.

It should be noted that in this psychosemantic space of perceived co-workers, the composite IA measure is positively correlated with the stressful pole of Dimension 2, thus indicating that these Army personnel having a higher level of understanding of other cultures tend to view their least preferred co-workers as being tense, guarded, uncooperative, rejecting and hostile. Conversely, other individuals, with a higher understanding of other cultures would have a less amount of stress or anxiety when they interacted with people of another culture and thus would like to have co-workers being relaxed, open, cooperative, accepting, and supporting. The fact that the IA measure loaded uniquely on this dimension seems to suggest that an individual's cognitive understanding of the subjective culture of another race would have no direct association with such aspects or co-working relations as intimate interpersonal friendships (dimension I), necessary personality characteristics for the efficiency of job performance (dimension III), the assertiveness level of co-workers (dimension IV), and the understanding of the existence of intercultural discrepancies in interactions (dimension V). The above results were confirmed by a multiple regression analysis in predicting an individual's IA scores by their LPC measures with a resultant R of .50 ( $p < .01$ ). Two significant predictors were the scales relaxed and interesting, both of which were markers of the LPC Stress and Curiosity dimensions respectively.

In order to identify inter-race and inter-rank similarities and differences on the personality characteristics of the least preferred co-workers, MANOVA was performed on all 16 individual measures, rather than on the resultant five factors. This is due to the fact that most items had multiple salient loadings on the five resultant dimensions. As indicated in Table 6 (B), the main effect of Race is significant in the multivariate test with obvious inter-race differences on two items: helpful/frustrating and close/distant. The multivariate F values for Rank and Rank-by-Race effects are not significant. But there are three significant univariate F values in the main effect of Rank from the items accepting/rejecting, relaxed/tense, and self-assured/hesitant. For illustrations, within-group mean ratings on the five dominating markers -- each uniquely loaded on a dimension -- are depicted in Figure 1. Three other items that were significant in the univariate tests are also included. It is interesting to note that the enlisted men of Army personnel, regardless of their races, tended to prefer to having a co-worker who was more relaxed (i.e., on Stress dimension), more interesting (on Curiosity), but not too self-assured (lower on Egocentrism). Similarly, the officers reflected by statistically significant lower mean values. However, the white officers group was an exception on Dimension IV in viewing hesitant as a dominant personality trait of the least preferred co-worker. Results on two scales frustrating/helpful and distant/close revealed some

Table 5

Factor Structures of LPC and Their Relations with  
Inter-cultural Awareness

Variables	Dimensions <sup>a</sup>				
	I	II	III	IV	V
	FRIENDSHIP	STRESS	PERFORMANCE	EGOCENTRISM	CURIOSITY
1. pleasant/unpleasant	.86**	.01	.13	.13	-.02
2. friendly/unfriendly	.90**	-.04	.15	.04	-.01
3. accepting/rejecting	.61*	-.38*	.09	-.25	.15
4. helpful/frustrating	.40*	-.18	.55*	-.27	.11
5. enthusiastic/unenthusiastic	.37*	.15	.69*	-.04	-.17
6. relaxed/tense	.19	-.78**	-.06	.15	-.07
7. close/distant	.64*	-.03	.07	-.53*	.12
8. warm/cold	.73**	-.22	.12	.14	.19
9. cooperative/uncooperative	.40*	-.41*	.39*	-.14	.29
10. supporting/hostile	.53*	-.33*	.39*	-.04	.23
11. interesting/boring	.25	.12	.42*	.05	.63*
12. harmonious/quarrelsome	.07	-.40*	.38*	.16	.34*
13. self-assured/hesitant	.13	-.03	-.01	.81**	.11
14. efficient/inefficient	.05	.00	.86**	.03	.03
15. cheerful/gloomy	.64*	-.31*	.06	.45*	.09
16. open/guarded	.30	-.49*	.12	.13	.59*
Inter-cultural awareness	.00	.73**	.04	.09	.23
Familiarity of IA	-.03	.03	-.16	.02	.74**

\* Salient loading greater than .30.

\*\* Loading uniquely high on a single dimension.

<sup>a</sup> The five dimensions can also be identified as I: Pleasantness/Unpleasantness, II: Relaxation/Tension, III: Efficiency/Inefficiency, IV: Assertiveness/Hesitancy, and V: Approaching/Withdrawal.

Table 6: Summary of Group Means and MANOVA on LPC

(A). Group Mean Values on the 16 Measures

Subject groups	Variables																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Enlisted men	Black	4.36	4.41	2.86	2.77	4.14	3.14	2.45	3.04	3.14	3.23	3.50	2.73	5.36	3.64	4.23	2.86
	White	4.18	4.56	3.56	3.87	4.69	2.88	3.75	3.62	3.06	3.75	3.81	3.06	5.62	4.38	4.12	4.00
	Total	4.28	4.47	3.15	3.23	4.37	3.03	3.00	3.28	3.11	3.45	3.63	2.87	5.46	3.95	4.18	3.34
Officers	Black	4.06	4.52	3.94	3.11	4.06	4.47	2.88	4.00	3.18	3.00	2.94	2.94	4.65	3.65	4.64	4.29
	White	3.94	4.63	4.06	4.68	3.89	3.84	4.21	3.68	3.89	3.53	3.89	3.53	3.58	4.05	3.32	3.63
	Total	4.00	4.58	4.05	3.94	3.97	4.14	3.58	3.83	3.55	3.28	3.44	3.25	4.08	3.86	3.94	3.94
Total	4.15	4.53	3.59	3.58	4.18	3.57	3.28	3.55	3.32	3.36	3.54	3.05	4.80	3.90	4.07	3.64	

Table 6 (Continued)

(B). Summary of F Values from MANOVA

Effect	univariate F-tests																Multi- variate F
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Race	.09	.08	1.02	7.54**	.135	.735	8.53**	.103	.436	1.19	1.80	.98	.476	1.19	2.01	.186	1.16*
Rank	3.65	.06	7.89*	2.16	.54	4.72*	1.71	1.60	.90	.126	.162	.690	6.05**	.027	.234	1.08	1.52
Rank X Race	.00	.00	.27	.23	.44	.12	.00	1.07	.68	.00	.47	.07	1.36	.10	1.52	2.39	.77

\*p < .05  
 \*\*p < .01  
 \*\*\*p < .001

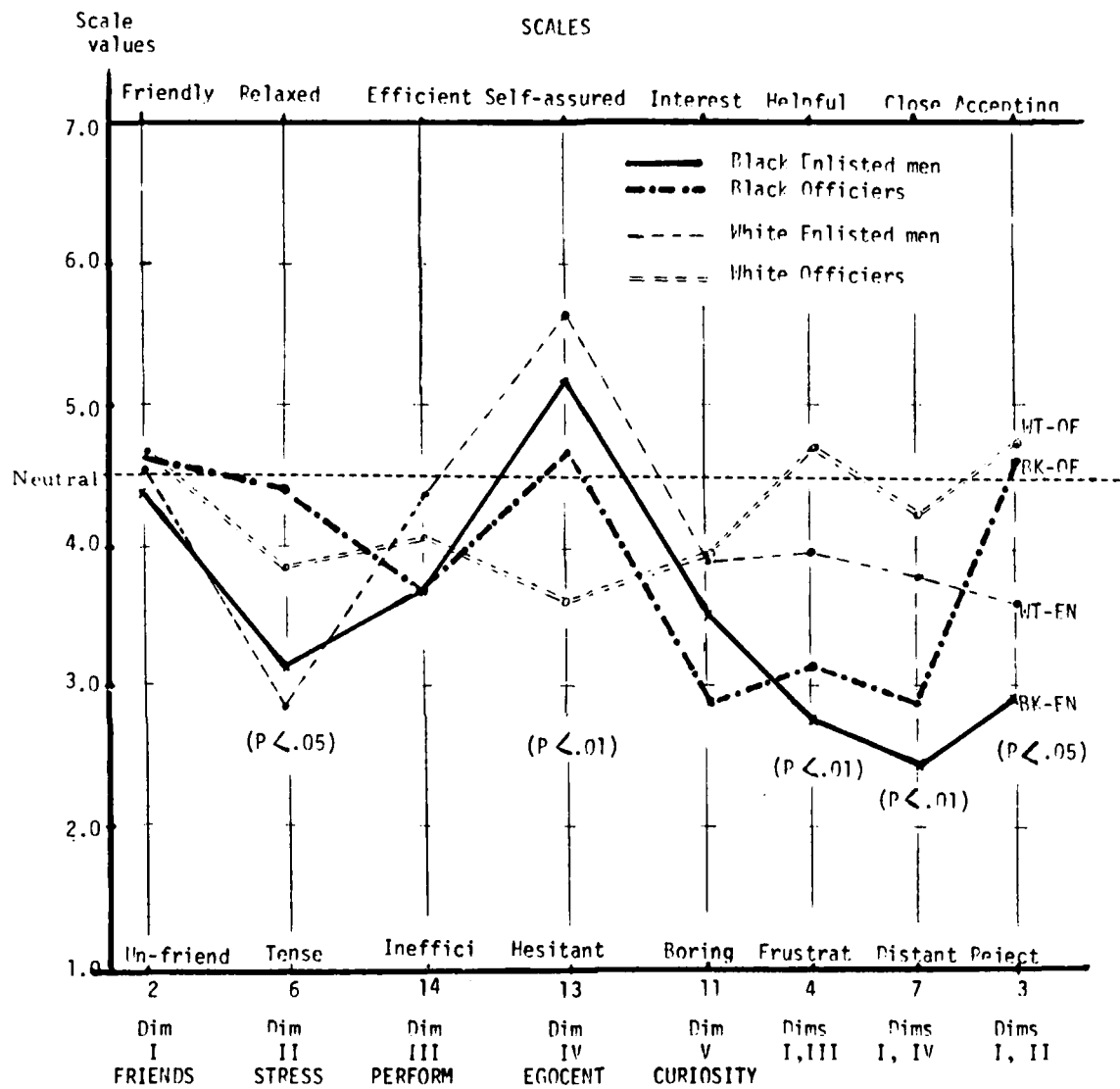


Figure 1: Group Mean Profile on Five Factor Markers and Three other Significant Scales of LPC

interesting intercultural and inter-rank differences in evaluating the significance of interpersonal relationships in working situations. While the white officers tended to be neutral about the importance of co-worker's level at the bipolarities between frustrating and helpful and between distant and close, the white enlisted men tended to dislike those frustrating (unhelpful) and/or distant (not-close) co-workers. On the other hand, all black personnel, particularly the black enlisted men, emphasized the importance of close and helpful relationships with their co-workers. The last column in Figure 1 revealed the inter-rank difference in perception of the least-preferred co-workers. That is, the enlisted men of both races, especially the blacks tended to be quite conscientious about their own condition as being rejected or accepted by their co-workers, the officers on the other hand would disregard the importance of such a condition. The present results strongly suggest that the interpersonal relation is indeed a critical factor in determining the morale among co-working members and thus it would affect the stability and efficiency of the group performance as a whole.

#### Group Atmosphere Scales (GAS)

The group mean ratings on the 10 GAS items were distributed within a relatively small range, from 4.21 to 6.38 as given in Table 7 (A). Therefore, the MANOVA of these measures resulted in very few significant F values as shown in Table 7 (B). This result suggests that all Army personnel who participated in this study had similar feelings about their working atmosphere as being pleasant, friendly, good and valuable, along with other positive characteristics. The only possible exception to this general trend is the below-neutral tendency displayed by the white officers on the scales harmonious/quarrelsome (mean = 4.32) and self-assured/hesitant (mean = 4.21). On the other hand, the black officers revealed favorable dispositions (i.e., with mean values greater than 4.50) toward the positive poles of all ten measures. The reasons for such inter-racial differences require a close examination of all situational factors in order to determine whether such phenomena are temporary or longitudinal, or specific in a region or general in the entire Army.

Relationships between the IA index and GAS scores were assessed in terms of a multiple regression analysis. The resultant multiple correlation ( $R = .313$ ) and the 10 individual regression coefficients were not statistically significant. However, their simple correlation coefficients with the criterion IA measure were all positive, ranging from .067 (for friendly/unfriendly) to .232 (for valuable/worthless). This suggests that the perceived group atmosphere in the Army is related to the level of the personnel's understanding of the dynamics involved in potential conflict issues and/or situations in inter-racial encounters.

#### Conclusions and Implications

For the purpose of identifying the psychological characteristics and processes involved in the understanding and changing of an individual's attitudes, dispositions, and/or some behaviors towards the persons of another race/culture group in the Army institution, the present study revealed the following important phenomena: (a) an understanding of the dynamics involved in potential conflict issues in inter-racial encounters

Table 7: Summary of Group Means and MANOVA of GAS

(A). Group Mean Values on GAS Measures

Subjects		Measures									
		1	2	3	4	5	6	7	8	9	10
Enlisted Men	Black	5.29	5.68	5.59	5.04	4.72	4.64	5.04	5.18	5.23	5.04
	White	6.31	6.38	6.00	6.19	4.87	6.06	6.37	5.81	5.94	6.19
	Total	5.71	5.97	5.76	5.52	4.78	5.23	5.60	5.44	5.53	5.52
Officers	Black	5.59	5.88	5.64	5.53	5.12	5.29	5.18	5.35	5.65	5.47
	White	5.42	5.63	5.05	4.89	4.58	5.32	4.32	4.21	5.05	4.84
	Total	5.50	5.77	5.75	5.19	4.83	5.31	4.73	4.75	5.33	5.13
Total		5.61	5.86	5.55	5.36	4.81	5.27	5.18	5.11	5.43	5.34

Table 7 (Continued)

(B). Summary of F Values from MANOVA

Sources of variations	Univariate F Tests										Multi-variate F
	1	2	3	4	5	6	7	8	9	10	
Rank	.64	.17	.02	.23	.12	2.14	.24	.22	.01	.25	2.38*
Race	.144	.162	.645	.364	.006	.018	2.99	1.89	.128	.527	1.32
Rank x Race	1.17	.71	.86	2.57	.39	1.95	4.53*	3.01 <sup>a</sup>	1.45	2.72	1.10

\*  $p < .05$



was significantly related to an individual's educational level and service background in the Army; (b) the individual with a higher level of such understanding would tend to be more tolerant toward the differences of opinions of others not only on social issues but also in military actions and national securities; (c) the increment of an individual's IA level would significantly decrease one's stress (or anxiety) level in inter-racial relationships in co-working conditions; (d) significant inter-race and inter-rank differences were found regarding the preferences of such personality characteristics of co-workers as rejecting vs. accepting, distant vs. close, helpful vs. frustrating, etc.; (e) an individual's familiarity of inter-racial conflict issues would not automatically increase his/her understanding of the dynamics of the conflicts; and (f) the level of an individual's understanding of the dynamics of potential inter-racial conflicts was positively related to his/her feelings about the group atmosphere in the working environments.

In sum, the above results suggested two important principles: (1) intercultural awareness is directly related to an individual's personality and cognitive style characteristics, and (2) elevation of an individual's cultural awareness level will definitely improve one's attitudes, values, and behavioral dispositions toward the members of another race, and thus decrease intercultural gaps and/or conflicts in inter-racial communications.

However, since the level of IA was found to be a function of an individual's educational level and career experience (rank) in the Army, the elevation of an individual's intercultural awareness will best be achieved through some form of intercultural education and/or training programs. In the literature of cross-cultural training, at least six approaches have been explored (Triandis, 1977<sup>11</sup>, Gudykunst, Hammer, Wiseman, 1977<sup>12</sup>): (a) the intellectual approach -- the trainees receive information of another culture by cognitive learning (Downs, 1969<sup>13</sup>, Fiedler, Mitchell and Triandis, 1971); (b) the area simulation approach -- the physical environment of the host culture is created or simulated for the trainee's practice (Gudykunst, Hammer and Wiseman, 1977), (c) the self-awareness approach -- the individuals receive the training on T-group or "new culture groups" for better understanding of him/herself in order to have better ability to adjust in another culture (Downs, 1969); (d) the cultural awareness approach -- the trainees are provided with general information of the target culture (Downs, 1969),

<sup>11</sup>Triandis, H.C. Theoretical framework for evaluating of cross-cultural training effectiveness. International Journal of Intercultural Relations, 1977, 1(4), 19-45.

<sup>12</sup>Gudykunst, W.B., Hammer, M.R., & Wiseman, R.L. An analysis of integrated approach to cross-cultural training. International Journal of Intercultural Relations. 1977, 1(2), 99-110.

<sup>13</sup>Downs, J.F. Fables, fancies and failures in cross-cultural training. Trends, 1969, 2, 3.

(e) the behavioral approach -- this approach will teach the trainees specific behaviors that are used in the target culture (David, 1972<sup>14</sup>, Brislin and Pedersen, 1976<sup>15</sup>); and (f) the interaction approach -- this approach provides the trainees with actual interaction experiences with the members of the target culture (Gudykunst, Hammer and Wiseman, 1977). It is clear that although these six approaches are somewhat different with respect to the emphases and methods used in the actual training processes, they are basically congruent in applying the same principle of social psychosemantics -- i.e., the learning of all important behavioral and cognitive components that govern the attitudes, perceptions and behavioral dispositions of all individuals in inter-racial interactions. In other words, in actual inter-racial interactions, not only should the underlying components of the contexts of communications be isomorphic between the counterparts of both cultures, but the attribution of such components to the cross-cultural controversial issues or elements should be completely understood by all individuals involved.

Therefore, in an ideal inter-cultural training program, the following variables -- all of which play important roles in psychological processes in formulating and/or changing each individual's affect, cognition, behavioral dispositions, and habits -- should be incorporated in the planning of the program: (1) The characteristics of individuals of both training and target cultures -- the characterizations should include both objective and subjective cultures of all individuals in the Army co-working environment -- e.g., attitudes, motivation, values and job satisfaction. Specifically, the emphasis should be on all individuals' implicit theories of perceptions and stereotyping of intra- and inter-race persons, (2) Representative situations and potential controversies exist in inter-race relationships within the Army's co-working environment. Unless the contents and structures of such situations can be identified, the training program will lose its focuses and substantive utilities, (3) The psychosemantic meanings of such situations perceived by the individuals of both training and target culture groups. This analysis will provide a thorough knowledge of the antecedent conditions of the controversies in the minds of all encounterers, (4) Design of an integrated training program that will take into consideration all the inter-race similarities and differences in both the characteristics of individuals and the meanings (and structures) of the potential conflict issues and situations. Under such circumstances the above six cross-cultural training approaches will be assessed and integrated such that the contents, methods and length of the training and the selection criteria of the trainers can be well planned in order to yield the most effective solutions, (5) Scientific evaluation of inter-cultural training effectiveness. The effects of an inter-cultural training (or assimilator) program should be assessed with respect to such important areas of concerns for the members of both

<sup>14</sup>David, K. Intercultural adjustment and applications of reinforcement theory to problems of culture shock. Trends, 1972, 4, 3.

<sup>15</sup>Brislin, R. & Pedersen, P. Cross-cultural orientation program, New York: Gardner Press, 1976.

training and target cultures as the familiarity of other cultures, knowledge of the dynamics of inter-cultural conflicts and controversies, level of attitude and anxiety changes toward the members of another race, and the achievement of effective inter-racial communications and interactions. Finally, as far as the Army administration is concerned, the evaluation should also include the accountability of the total cost spent for the training operations in terms of their effects on the morale of all personnel and the improvement of the accomplishment in job assignments.

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